Book Launch Event for *The Global Farms Race*
December 4, 2012

Robert Hathaway:
Can we -- technology is a wonderful thing. I'll start again. Welcome to the Woodrow Wilson Center, I'm Bob Hathaway, I direct the Asia Program here at the Wilson Center. Since we are being watched live around the world, permit me to say just a couple of sentences about the Wilson Center. We are the nation's memorial, official memorial to our 28th president. The Wilson Center strives to provide a bridge between the world of the scholar and the world of the policy-maker. In other words, to commemorate both the scholarly pursuits and the public policy concerns of Woodrow Wilson. We are here today, of course, to help launch a new book, “The Global Farms Race -- Land Grabs, Agricultural Investment, and the Scramble for Food Security.” This is a global phenomena, though many of the investors as well as many of the agricultural lands in question are based in Asia. I am delighted to report to you that a couple weeks before the November elections, Christian Science Monitor named this book as one of a small handful of foreign policy related books of -- that both presidential candidates should reach -- I'm sorry, should read. I'm not sure that both of those candidates will necessarily be interested in reading it or not to read it but I certainly hope President Obama and many of those around him do pay attention because it's an important topic. It is, as I say, a phenomena that is global in nature and reflecting that, this program is being co-sponsored not only by the Asia Program but also by six of our sister programs here at the Wilson Center, the African Program, the Latin America Program, the Kennan Institute, which focuses on Russia and the former Soviet Union, our environmental change and security program, our China Environmental Forum, and our program on America and the Global Economy. So when you put the seven of us together you can see there's very few things around the globe that not one or more of us are focusing on. But all of us are focusing to one degree or another on the farms race and land grabs.

This session today is an occasion of particular pride for the Asia Program because two of our Asia Program families are the co-editors. The lead editor is Michael Kugelman and my extreme right who is the Senior Program Associate at

-- in the Asia Program at the Wilson Center. His co-editor partner could not be with us today, Sue Levenstein. Sue could not be with us because she has moved on to the State Department and her State Department responsibilities prevent her from being with us today. But we are immensely proud of both Michael and Sue and gives us great satisfaction and great pleasure to see these two young scholars be developing so well and producing such a note-worthy book. While I haven't met them yet, I also want to recognize that Michael's parents, Mr. and Mrs. Kugelman, are here in the audience, and wherever you are out there, I'll look forward to meeting you after our event today and tell you how proud we are of your son. Before we get started, let me make two final announcements, both of them very important.

First being that you can all purchase this book immediately outside our doors. The holidays are coming up; this would make a splendid gift for one or more loved one so I cannot imagine anybody leaving here today without purchasing at least one copy, but several copies is better. We are going to give you a special discount as well so please do see our book seller on the way out for those of you who haven't already purchased your copy. The other nearly as important announcement is that at the conclusion of today's event we will be hosting a reception. So not only can we entice you to stay a bit longer with the prospect of buying a book or two but we will also give you a little bit of nourishment to encourage you to buy several books.

So, all right. So let's get on with the business at hand. I'm going to very briefly but only very briefly introduce our four speakers. I expect all of you picked up their bios on the way in and so I don't need to tell you what you've already read. I'll simply say one or two words on each of the four. Michael Kugelman, who will speak first, has already been introduced as senior program associate for the Wilson Center's Asia Program. His recent publications include books on food security in Pakistan as well as contemporary security challenges facing India. We'll be hearing next from Derek Byerlee. Derek was formerly a rural adviser at the World Bank, co-author of the bank's report entitled Rising Global Interest in Farmland, which came out last year. He is presently an independent scholar. After Derek we'll be hearing from Gary Blumenthal who is president and CEO of the agricultural consultancy World Perspectives, Inc. Previously, he worked as special

assistant to the president for agricultural trade and food assistance under the first George Bush and was also chief of staff to Secretary of Agriculture Clayton Yeutter. Janet Larsen will bat forth [spelled phonetically] for us. She is director of research at the Earth Policy Institute and among other things, co-author of “The Earth Policy Reader.” All of these are immensely distinguished people and I urge you look at their bios in full. But at this point, Michael, we'll turn things over to you.

Michael Kugelman:
Thank you Bob. I appreciate the very kind introduction. Thank you again everyone for coming here today. Let me just say off the bat that if my voice sounds distorted it's not the AV but I'm dealing with a bit of a head cold so you'll have to bear with me. Despite the common [spelled phonetically] circumstances here today, this is not the Academy Awards, and for that reason, I am not going to ramble off a series of long thank yous and shout-outs galore. You can find a long list of well-deserving names in the book's acknowledgment section. However, I do need to recognize several institutions and individuals.

First, my co-editor Sue Levenstein and I cannot emphasize enough how grateful we are to the Wilson Center and to so many of its staff including and especially Bob Hathaway of the Asia Program, but also the marvelous and talented members of the Wilson Center's environmental change and security program, Africa Program, Latin American Program, Brazil Program, and the program on America and global economy. They have all been enormously helpful and supportive in so many ways. And I also must single out our publisher, Washington D.C.'s very own Island Press. Special thanks above all to our main editor Emily Davis [spelled phonetically] who was with us every step of the way with support and guidance. Thanks as well to our brilliant production editor, Sherise Symoniun [spelled phonetically]. And finally thanks to the marketing and publicity folks at Island Press, Angela Osborne [spelled phonetically], Jamie Jennings [spelled phonetically], Megan Bartles [spelled phonetically] and Jason Lepic [spelled phonetically]. I believe Megan is here somewhere; I thought I saw her before. Thank you. And I believe Jamie is here as well, thank you. They're both in the back row. Thanks to all.

Our book, “The Global Farms Race” has its origin in a

conference that Sue and I hosted here at the Wilson Center in this very room back in May 2009, it was entitled Land Grab? The Race for the World's Farmland. This was in a time when very few people were talking about the issue of large-scale foreign land acquisitions. Back then, because information on these land investments was so scare, even scarcer than today, and because there were very powerful interests involved in these investments as there are today, both government and corporate, the topic was extremely controversial back then as it remains so today.

I remember early in 2009, not too long before our May conference, I went to a well-attended Washington symposium marking the release of a comprehensive major new report on international food security and agriculture issues. At no time during the conference was the land -- the quote-on-quote “land grab issue” mentioned until during the Q&A someone got up, introduced themself as an employee of the Department of Defense and then said something to the effect of, “So, what do you make of this trend of foreign nations and corporations buying up enormous swats [spelled phonetically] of farmland in the world's most food-insecure countries?” The question was met with utter silence. Each panelist refused to answer; in fact they all looked shell-shocked as if they had been accused of having an extramarital affair. Even people in the audience looked uncomfortable and some made some funny faces, such is the level of controversy and sensitivity surrounding the issue. Sue and I, however, knew the topic was a compelling one and that it deserved public debate and scrutiny and especially in this town. So we assembled a group of top agriculture and food security experts and held our conference in May 2009. We published the conference papers as part of a Wilson Center conference report.

Several years later with the topic now getting more attention we signed on with Island Press to revise and expand those earlier papers, solicited new ones and came out with the “Global Farms Race.” This is the first comprehensive study of large-scale foreign land acquisitions; it contains contributions from academics, farmers, experts at international organizations, and agribusiness investment advisers. These contributors are based in nine different countries across the developed and developing worlds. I should say as well that not all contributors share the same viewpoints; several of them openly disagree with each other, which of course is an

indication of our intention to feature a balance of views on such a polarizing issue. The book has 12 chapters starting with an introduction by me, followed by chapters on historical precedence written by Derek. Chapters on motivations, policy considerations, social and economic implications, environmental impacts, ways forward, and investor's perspectives on farmland; that latter chapter is written by Gary. There are then four regional case studies focusing on Africa, Asia, Latin America, and central and Eastern Europe and the former Soviet Union. And finally there's a concluding chapter written by me that highlights the volume's collective recommendations.

So, what do we mean by the global farms race? What is the global farms race all about? To answer this question, my introductory chapter presents a scene-setter, brings the reader back to 2007, 2008 when the world was mired in a global food crisis. Price -- food prices had risen, food riots were occurring in cities and many food-producing nations had imposed export bands to insure sufficient domestic food availability and to keep prices down at home. These were all alarming developments for the world's food importing countries, nations that could not simply grow their own food to feed their populations.

And there were other factors driving up food insecurity as well: urbanization was destroying farmland, water to irrigate farming at farmland itself was in short supply, and plant diseases were ravaging wheat and other crops. Of course, these are all happening now. So unable or unwilling to depend on high-cost volatile international food markets, increasingly desperate for more supplies, and fearful of food insecurity trigger unrest at home, some of these food importing countries, the more capital rich ones started looking abroad to meet their food security needs. They acquired farmland overseas, cultivated it, and then for the most part and very controversially exported the harvests back home. And the story is continued to the present day. A former director of the international food policy research institute has famously referred to this trend of a “new phase” of the world food crisis, because while these land acquisitions abroad may ease food insecurity of those countries acquiring farmland, they greatly imperil that of the nations hosting these investments. This is because these investments in many cases are gobbling up farmland previously used to produce staple food crops in host nations that are already very

food insecure.

Now as an aside, I should say here that large-scale land acquisitions are by no means a new phenomenon; Derek will soon discuss historical precedence. But the current manifestation features a number of characteristics not seen previously, such as the involvement of these staple food crops. In the past, the main products involved were cash crops and non-food commodities such as tea and rubber and not as much food staples.

A bigger reason why these land deals have raised so many eyebrows and certainly one of the reasons why Sue and I were so intrigued by this topic is the sheer scale of the land acquired and how this scale has increased so dramatically. So if you look at the slide, back in 2009, Ifree [spelled phonetically] was saying 15 to 20,000,000 hectares have been subject to negotiations or transactions in recent years. Then in 2001, the World Bank was saying that 60,000,000 -- 60,000,000 hectares worth of deals had been announced in 2009 alone. Then in 2012, in fact, just earlier this year, the international land coalition said that more than 200,000,000 hectares had been approved or are under negotiation between 2010 and -- between 2000 and 2010. And that's the amount of land nearly the size of Western Europe. Now, other estimates go even higher. Oxfam has said that 230 hectares have been acquired; that is the size of Western Europe.

Now, just another aside here, this book betrays some of a weakness for the metric system, we'll use hectares for those of you more conversant with acres, I should say, that a hectare equals about 2.5 acres. Now the immense scale is even more stark when considering individual deals. Early in the book we present a chart called The 100,000 Hectare and Above Club which depicts 10 announced deals each involving at least 100,000 hectares. Several are in access of a million hectares. Now for some perspective, just look at the bolded text down at the bottom of the slide there, it says the most common plot-size for a farm in the developing world is less than two hectares. And yet we're looking at 10 deals of at least 100,000 hectares including several if more than a million. And also keep in mind that there are quite a few announced deals in the range of 10, 20, 30 40, 50,000 hectares which is still a very large, expansive land relative to the two hectare plots that are most common in the developing world. What are the key

regions, where are the key regions of investment? Very briefly, in descending order of popularity, they are Africa, especially sub-Saharan Africa, southeast Asia, Latin America, central and eastern Europe, and the former Soviet Union. And I'll hit on these regions a bit more specifically a bit later.

Now what about the key investors? Who are those people scouting out about land and acquiring land? As noted before, a lot of capital-rich food-importing nations, mostly from the Gulf but also China, Japan, South Korea, India is also a very big player that seems to be forgotten by a lot of folks; India is very active in this. The private sector as well, particularly agribusiness firms from countries such as those listed there above, but also from the West, from Europe and from the United states. It's also, it's very important to emphasize that this is not merely a case of the powerful preying on the poor. As you'll recall from one of the previous slides the largest announced deal to date which is 6,000,000 hectares involves Brazilian investment in Mozambique because as you can see here, this is not exclusively a north/south phenomena, a north/south investment phenomenon. North Africa is investing in sub-Saharan Africa; Southeast Asian nations are looking at each other's own lands. And also more recently, a number of countries have been looking at farmland in New Zealand and Australia which again shows that it's not only the developing world that's being targeted.

So what is driving these land investments abroad? This is a major question debated quite rigorously in the book's early chapters. In terms of land investors, as we've discussed, food security is certainly a major motivation yet so increasingly is energy security. About 40 percent of the land involved in these acquisitions is used for bio fuels production. In Africa, however, bio fuels are the single biggest driver. So even though the Farms Race is certainly a scramble for food security, as we say on the cover, it's also very much a hunt for energy security. And I think that the west focus taxation infatuation, pick your word, with bio fuels is certainly an enabling factor here. Now additionally for private corporations, you know, the motive is very much profit-oriented, it's in many cases a simple matter of supply and demand, food supplies and the water and arable land resources needed to grow food are in short supply. Demand for these resources is high and is

intensified by global population growth. So in other words, land makes for a good investment and Gary will get into this more, I'm sure. But let me just say that private investors now see land as such a powerful asset that it can be a hedge against inflation, not to mention a portfolio diversifier [spelled phonetically].

Now in terms of the motivations for the nations hosting the investments, they have their own motivations as well. This is a very critical point to understand. They are promised a variety of benefits by foreign investors, better agricultural technologies, more local employment, better farm yields. Given the struggles of the agricultural sector in so many countries these are very enticing perks for host governments.

Similarly, investors promise better infrastructure, which is also a critical need in so many places. And finally, pardon me for being a bit explicit, but many of the governments hosting these investments are corrupt, undemocratic, and not particularly accountable to their people and really see these deals as nothing more than a money-making opportunity. So for these reasons, host governments go out of their way to attract potential investors. They have no compunction about holding farmland fire sales, it's not like foreign investors are barging in, guns blazing, throwing their weight around and essentially laying cling [spelled phonetically] to land. No, it's the governments in these countries that are courting very aggressively these outside investors. They offer very lavish tax incentives, tax holidays, my favorite incentive is when provided or offered by our Pakistani government which is offered a 100,000 person strong security force to protect investors. Incidentally, that's about the fifth the size of the entire Pakistani army. So that's a lot of -- that's a pretty large security force. So given that these land deals help enhance the food security of food importing countries and given that they promise major agricultural benefits the nations hosting these investments, one may assume, one could assume that these land deals are an unquestionably good thing.

After all, in the era of urbanization and of the rapid growth of service sectors, global agriculture is sorely neglected and needs new infusions of investment. This is all true but here's the problem: as our book explains very clearly and in great detail, promises of benefits to local

communities, again, the new technologies, greater employment, higher farm yields, are for the most part not materializing. As the book's chapter on social impact discusses in great detail, the power asymmetry is at play, and by that I mean the combination of wealthy and powerful foreign investors, investments supporting, and often undemocratic and corrupt host governments and especially impoverished, marginalized, and disenfranchised local communities. This dynamic increases the likelihood of inequitable outcomes. Local communities have already been displaced by these new deals; the book is chock-full of examples, most of them occurring in Africa and Asia. Perhaps the most ironic example is in Uganda where a British firm's seemingly benign project to plant new forest land has resulted in the displacement of 20,000 people. Additionally, local communities' access to water, food, and medicine has been cut off. In much of the developing world land may not be formally owned in the sense that it is in the developed world yet it is still used by local communities to meet food, water, medicinal, or livelihood needs. Investors often target land that may seem unowned or unoccupied yet is still used nonetheless, sometimes in very personal and deep ways. The book's Africa case study chapter suggests that some foreign land investors have unknowingly laid claim to land used as burial sites. Local communities are simply too poor and marginalized to have their needs and interests protected in these contexts.

There are additional risks inherent in these land deals; a big one is environmental. Investments involve lots of large-scale chemical and industrial farming and consume large quantities of water. There's also concern about deforestation, indigenous Indonesian communities in fact have already lodged formal complaints with the World Bank accusing a palm oil company of destroying their forests. This is no small matter given that most of the land deals occurring in regions housing the world's sole remaining rain forests. The book's environmental impacts chapter reveal that in Southeast Asia and sub-Saharan Africa, forest conversions to oil pump production which is one of the key crops in these land deals have caused 100 percent deforestation rates. They've also eliminated 60 percent of entire bird species in Malaysia. Now conflict is also a very real threat here and I think that's why the U.S. intelligence community take such a key interest in this trend.

Perhaps most famously a South Korean deal by a 1.3 million hectares of farmland in Madagascar sparked widespread protests there in 2009 and helped bring down the government. Indian corporate investment in Ugandan farmland has sparked violent response in that country. Kenyans have vowed to fight back violently after being evicted from the Tana Delta to accommodate a sugar plantation. And there are fears that a Saudi farming project in an ethnic insertioncy riven [spelled phonetically] province of Indonesia which calls for a lot of imported labor will spawn more ethnic unrest. So now you can begin to see why the Pakistan's of the world have offered private security forces to perspective investors.

Finally a more long-term threat is a major food market crisis. Excessive food production occurring outside of global food markets could cause food market demand to plummet leading to fewer market supplies and major food price rises. The most vulnerable would be poor food importers, particularly the nations of western Africa with insufficient capital to follow the lead of the China's, India's, and Saudi Arabia's who have the tools, the money, the capital, the wealth, the resources to invest abroad. Now I won't -- I'm not going to go into great detail on the book's case studies, I'm happy to address any questions later. I'll simply underscore, again, that “The Global Farms Race” is not an Africa-only phenomenon, even though investments in that region get the most attention. Africa is indeed the most popular spot for farmland, as you see here. Six of the ten largest deals highlighted in our book are in Africa.

Ironically and tragically many of the African countries allowing outsiders to farm land and whisk it away are dependent on world food aid. In my view, perhaps the most bizarre manifestation of this entire story is in Sudan, a country dependent on hundreds of millions of tons of international food aid. Sudan, however, has allowed vast expanses of its land to be used to farm sorghum, a Sudanese staple for consumption by camels in the UAE. Now, the story in Asia is very similar to Africa as described in the case study chapter which was written by an official with the farmer's organization in the Philippines, there are major concerns about displacement and environmental threats.

The only -- the only real major difference with Africa

other than scale is that investment in Asia is mostly intraregional in nature, Asians investing across Asia. In Africa, much of the investment comes from places other than Africa.

The Latin America is in an interesting case. Our chapter on this region argues that because most land investments in this region do not involve food crops and occur mostly in sparsely populated areas and because there is an ample supply of arable farmland in this region relative to the other regions, the impacts on food security, social stability in the environment are not as strong and negative as in Asia or Africa, at least not yet. Yet there are still concerns. Now finally, the former Soviet Union, this is another interesting case, here land investments are tied to the feeding frenzy that broke out after the fall of the Soviet Union when folks scrambled to take over formerly state-owned farms. This case is similar to the Latin America one in terms of relatively minimal social impacts -- relatively minimal social impacts. And also in terms of the very high-quality, nutrient-rich land that is so attractive to private investors. Latin America and former Soviet Union seem to have some of the most desirable land for investors.

So let me -- as I start to wrap up here, let me do so with a warning. I think it's important to keep things in perspective. Yes, 203 million hectares -- or 230 million hectares is a whole lot of land to be relinquished to outsiders and there's much to be worried about which the book emphasizes throughout. But at the same time, though, the book strives to lower the temperature on what is often a very alarmist and heated debate and therefore offers some points of reassurance. For example, foreigners still control relatively little land on a global level. The World Bank has reported that actual farming has begun on only about 20 percent of announced deals. Well then again, it's also true that many corporate land investors are currently sitting on their land for speculative purposes without ever farming it.

Another point to keep in mind is that the pace of acquisitions may have dropped a bit in recent years. Though some of the freshest data suggested that it could well be picking up again. And additionally, as Gary will probably touch on, investors are finicky about acquiring farmland, they could well decide in the next few months or

years that land is no longer worth the investment. And finally, yes, these deals can be problematic but we need to acknowledge and emphasize the positive stories. Some of these stories have indeed helped expand agricultural employment in host countries, for example, some investors particularly the Chinese do sell their harvests back to local markets. And incidentally China seems to be one of the more benevolent investors with Indian and gulf investors, [unintelligible] I'm trying to figure out why that may be the case. The IIED, the Institute for -- International Institute for the Environment and Development, I think is what it's called. Some researchers there did something that very few researchers have been able to do and that's just get their hands on a few actual contracts governing these deals. And they found some interesting things. They found several contracts that actually contain very explicit provisions for hiring locals and for protecting environment. Now, of course whether that was actually done in practice is another story. But they're there at least in -- on paper.

Now all that said I'll put my Doomsday hat right on here. Even as we keep things perspective, we need to be realistic. The original trigger is for these land acquisitions. In 2007 and 2008 remain in place today. Especially those few there high commodity prices, population growth, bio fuels and food demand, they'll -- they'll be around for a long time and into the future in my -- and in their view. So I'll conclude with some policy questions -- first, the book does not outright reject land deals. It effectively says let's accept their existence and think how to make them more for everyone. Our recommendations argue that the notion of an international code of conduct to help guide these deals is, you know, it's somewhat of a good idea. But what's much more important is for the governments in the countries hosting these deals to institute more robust laws and regulations about foreign investment and land. We also call for these governments to offer more support to small holders so that these local communities are not exploited by powerful outside-investing forces and they're domestically based intermediaries.

Now admittedly this could be a tall order given how undemocratic many of these host governments tend to be but it's still important to state. Now, the issue of alternatives, what can be done in short of large-scale land

acquisitions that can promote food security? One emerging option is new drought-resistant farming technologies. The private sector's been at work on this for several years; these types of innovations would allow parched countries in the Gulf to grow crops at home and really render unnecessary their need to farm abroad.

Similarly, our Asia case study describes how Southeast Asia countries have decided to form a regional rice pool. I've consummated [spelled phonetically], it'll be a long time until it is if it in fact is. This could reduce their incentive to look to outsiders to enhance their food production. Finally, how do we leverage large-scale deals to get much-needed investment to global agriculture, more to -- does it involve more target investment exclusively in irrigation development or farming technologies? Or should there be more of a focus on establishing courses and other classes and other educational tools to improve local communities' agricultural skills, if these skills are in fact needed? So these are all tough questions to answer. Our hope is that the global farms race will equip academics policy-makers, business people and not to mention the general public with the context and background to better tackle them. So, thank you.

[applause]

Bob Hathaway:
Thank you Michael. We have a number of seats here, a number of you are standing up, and you would certainly be encouraged to come forward and grab a seat. We'll now hear from Derek Byerlee.

Derek Byerlee:
[inaudible] okay. Okay, thank you very much and good afternoon to everybody. It's a pleasure to be here even though it's a beautiful winter day outside. First of all let me offer my congratulations to Michael for putting this book together, I think it's a very rich set of studies. And I think coming from a number of different perspectives, both from a private sector which you'll hear about later, from the civil society, economics, environmental, and so on. I was asked to look at the history and I'm not sure where that came from. Perhaps it's because I'm very old and I remember a lot of the history. But I think it was also because I had been working on the World Bank Report on rising global interest in farmland. And I've been saying

all along this is not particularly new. If we go back we can look at this as being a lot of experience with this type of foreign investment, good and bad in the past. So when Michael came to me and said, “Well, would you like to do the history chapter?” I said, “Well, let me walk the talk and -- ” I took it on and I didn't realize quite what a rich amount of material there is out there in terms of historical perspective, it goes all the way from the left-hand side of somebody who has combed through 100 years of colonial records in India looking at land and labor issues and investment in tea. All the way through to much more racey, generalistic [spelled phonetically] type of publications like general capitalist which is about the banana industry in Central America.
Okay. So one of my challenges was to try to focus this a little bit, narrow it down, and I think Michael said, “Well, perhaps you need to go back and look at the Roman Empire and their investment overseas.” And I said, “No way.” So what I selected to do in terms of provide a perspective on today is start from 1850, this was sometime small of the first year, the golden era of globalization, way you really did have for the first time, significant free trade, capital, free-flow of capital and also free flow of labor and also this is a time when you had transport costs had been significantly reduced both on land with runaways and seen with steam ships [spelled phonetically]. And then within that, I looked at foreign investments obviously at that time not much of a tropical world was under in the European empires so I'm looking investments a lot -- a lot of it's in the colonies, focusing very much on British and American investors, but Americans particularly from around 1900. And these were the big investors, and I do have examples from Japanese and French and so on, Dutch and so on, in the chapter, but I think most of the focus is on British and American.

Very much focusing around industry structure, the roll of large scale versus small scale, that’s one of the themes in the chapter. And the second theme, of course, very consistent with the book, is on local land rights. And I should say here, right from the outset I’m looking very much what’s happening in investment in tropical areas, mostly the plantation-type investments. But the really big land grabs at that time were not from foreign investors, they were from settlers. And during that last part of the 19th century, for example, the cultivated area in the U.S. more than doubled by more than 100 million hectares at that

time as settlers moved out into the Great Plains. So I'm only looking at a very small part of overall land grabs from a historical perspective.

And then finally, in terms of giving me some sort of focus, I elected to look at six commodities or six commodity groups. And those I've sort of summarized a bit here on a table. I started in a sort of somewhat of a chronological sequence here. In terms of the major commodities that have been a focus of large scale land acquisition and foreign investment in the past; and all of them, except for tea, are still a major focus of investors.

So starting from sugar cane in 1850; sugar was the most widely-traded agricultural commodity, well-established. Of course that was also very much associated with the slavery period as well, 1815, and by and large, we were put into the post-slavery period.
Associated with sugar was tea. And particularly in Britain, sugar and tea very much went together, and this was the second really big commodity boom of this period. Around 1900, you had the invention of the automobile and a tremendous increase and demand for rubber, and that led to a rubber boom, one of the most startling price spikes in all of the history that I looked at. Bananas were a very different story, in that bananas was an industry that was really created by three major American companies. And then on to more recent oil palm. And then, finally, grains and oil seeds, which is our -- is our food staples.

Those commodity groups have a whole set of characteristics that may relate and explain the structural characteristics of the industries, particularly the interest of large-scale investors. I've put them in a table. I'm not going to go through them, but there's a lot of differences among those commodity groups in terms of, for example, the first one, one of the most important is the extent that you have to coordinate the harvesting and processing of a commodity, because in most of those, the high group there -- sugar cane, tea, bananas, and oil palm -- you have to process or ship them within about 24 hours after harvesting. So you have to have very close coordination with production, and for that reason, companies often elect to produce their own, rather than source it [spelled phonetically] on the open market.

Okay, I'm not going to -- the chapter actually goes through and discusses each of those commodities, and each one of them is a fascinating story, actually. I got quite involved in and I'm -- even though I've finished the chapter, I'm still working on this. But the only story that I wanted to give here, to just illustrate the -- sort of the circular nature of history is oil palm.

And oil palm really started -- it's an African crop, it's West African, its origin is West Africa, West and Central Africa, and up until the 1960s, West Africa was the major exporter of oil palm, palm oil, and it was also one of the major exports of West Africa. Somewhere around 1970 it took off, and you can see it all happen. It took off in Southeast Asia. It had some both positive and negative consequences, and particularly, Michael's already mentioned the negative in terms of tropical deforestation. But it's become a major industry. It's one of the most important agricultural industries, certainly in that region. And I think one of the staggering statistics that I came up with is that the value of palm oil exports right now is greater than the value of all agricultural exports from -- the value of palm oil exports from Southeast Asia is greater than the value of all agricultural exports from Sub-Saharan Africa. It just gives you some idea of the magnitude of that industry. And Africa actually is importing several billion dollars worth of palm oil at this stage.

And I think the interesting thing, in terms of the circular nature of these types of investments, is that these companies that have grown up in Malaysia and Indonesia, they're originally European companies, taken over now and managed from Malaysia, Singapore, Indonesia, and now investing back in Africa. And there's literally billions of dollars at stake here. In terms of the amount of investment, they're talking about three million hectares of land, millions of jobs, and a great deal of potential for small holder. So the point here is if it's done well, if we can learn from the lessons from Southeast Asia, it could be a major economic engine for much of West Africa.

Okay, now just to summarize what my main points, in terms of looking over the chapter, is in what's new and what's not so new. So, first of all, in terms of looking at historically and comparing with what we see today, there's some very common patterns. First of all, historically, when you have commodity price spikes as you have today, you

do see a definite influx of investors into agriculture. This is being -- you see it in the rubber booms of the early 1900s, you saw it in tea in the 1860s, sugar in the 1920s; it's a very consistent pattern. But also -- what you also see is that when prices go down, people -- investors are often in trouble. So you get a fairly significant rate of faders in these types of investors -- investments, both private investments as well as public investments.

One of the things you've also seen in the past is the state-directed investments in the name of food security. And one of the big ones and the most famous ones is the ground nut scheme in East Africa, in Tanzania; this was British investments for a public investment, a big shortage of vegetable oil at the end of World War II, and led to an effort to try to produce a million hectare of ground nuts, large scale in Tanzania. And that is used now as an example of the failures of these types of large-scale investments, particularly, if they are state-directed. They also have similar types of investments in Australia.

And finally, a couple of things I'll talk a little bit more about as I go along. Small holders have been consistently -- the potential of small holders has been consistently underestimated. And finally, and something we see today as well, is uncultivated land is called -- in the British Empire was called wasteland. Even tropical forests were called wasteland. And if you go to India today, they still talk about wasteland. So all of those things not recognizing the rights of pastoralists, or forest dwellers, or livelihoods derived from forests.

Okay, so what's different? I think Michael has already mentioned some of the differences. First, mess the big companies from Europe, and America, and Japan that invested in the past have got out of farming. The Unilevers, the tire companies, the rubber companies, such as Michelin and Goodyear; banana companies such as United Fruit, now Chiquita. They've got out, and so most of the big investors now are coming from a developing world. A second thing that's new, as you look historically, is private investment in very large scale, on super farms for food. You see very little of that historically. You only see this really rising since around 1990. So it's a rather new phenomenon, and I'll just discuss that a little bit.

And then, finally, I think interesting is that when you look back historically at these types of investments, there's been a lot of conflict that has been controversial, but much of that has been around labor issues. And there are horrendous problems of labor rights, historically, even after slavery was abolished. And some of these things around World War II that you've seen land issues come to the floor as a major issue of land rights.

Okay, let me just go in a little bit and talk about two of the major themes of the chapter, which is industry structure, and the second one, we'll talk a little bit about the land issues. First on industry structure, one of the themes that comes through, historically, is looking over time industry structure is quite dynamic. And, in fact, one of the things that you find in those commodity groups that I looked at is often you started with large-scale investments, large plantations, and you finished up with small holders. And so I've given some of the examples of how that was done. Rubber is a classic example. It was domesticated in around 1900. It was all large-scale plantation. By World War II was nearly half small holder, in spite of a rather hostile policy environment for small holders. It became the small holders were able to latch on to this economic opportunity, and now it's at least 85, 90 percent small holder, independently.

There are also many of the companies, instead of running their own big farms, have been move towards contract farming and out groves for small holders. And I've given examples in the chapters, and bananas is a classic example, used to be very large operations in Central America, now mostly contract growers. Tea in Sri Lanka is another example. Oil palm in Indonesia is now about 40 percent areas under small holders.

And finally, some interesting examples of small holders that have vertically integrated upward in the value chain through cooperative processing, and I think tea in Kenya is really a good example of this. It started out as large companies; now it's over 60, 70 percent small holders. Small holders own the tea factories themselves and they produce for those factories. And that's an example -- I think rubber sort of happened in spite of a hostile-policy environment. Tea required a significant investment by the state and donors.

So if we had that sort of trend, why are we still getting large-scale type operations in agriculture? And remember that, around the world, 98 percent of farming is family farming. A few issues, and I'm just going to go through these very quickly. One is post-harvest issues, and I've already mentioned these. The need for very tight coordination of production and processing, and I think the classic example of this is sugar cane, and I've got figures in the table of how much area of sugar cane do you need to feed a mill. In 1860, it was only 200 hectares; then you had a revolution in sugar cane processing and it went up to 9,000 hectares in 1929. And now I'm told in Brazil the largest sugar cane ethanol plants need 100,000 hectares to be able to source their raw materials for the mills. So this is really a revolution in processing, which is translated back into scale of production. We don't see that sort of change in the case of something like tea where the technologies really haven't changed very much at all.

And then specialized logistics, and I think this was one of the cases. In bananas, they had to put in a whole supply chain. They had their own fleet of ships, own pullets [spelled phonetically], own railways, and so on. And so there was a reason for United Fruits, at one time one of the largest farm landholders in the world had 1.4 million hectares in Central America.

Secondly, pioneering risk. I think we forget about that a lot of these are new commodities and new regions, and the significant risks involved, the technological risk, particularly in something like rubber, you had to be domesticated. And I think that today's rubber plant is jatropha. Jatropha is an oil seed for biofuels; it's a wild species that is being domesticated at this moment, very risky. And that's why you see historically very high rates of failure for some of these types of projects. And I think just an example, the Ford Motor Company tried for 30 years to produce rubber. They had an ambition of a million hectares of rubber in Brazil, and eventually, they gave up and failed. And that was a company with very deep pockets. But, of course, if these are pioneering risks, if you're successful, then you've opened the way for other entrants. And what you see is that with -- once you've took care of the technology, you get the infrastructure in place, it opens the door for other entrants including small holders. So many of the examples of these participation,

improved participation of small holders relates to the fact that the risk has been reduced over time.

Thirdly, and I think particularly explaining the recent rise of very large farms for food crop production, is innovations in farming itself. We've got a whole series of innovations that makes the management of these very large farms much easier in terms of GMOs, zero tillage, satellite supervision of tractors, et cetera, et cetera. There's a whole precision agriculture, that in one of the companies I visited in Argentina, is, to me, it's a state of the art technology which you don't even see here in the U.S. But also there are significant -- remember that these are examples, and particularly, I think many of these companies are in Latin America. I have yet to see successful food crop farming in Sub-Saharan Africa on a large scale, and we've got some real disasters out there, including the 11 million hectares in Sudan, which has been going on for many years.

Moving on quickly, distorted policies has been another factor favoring large scale, particularly the cheap land. We're talking about $1 per hectare today; in many cases, cheap credit. And this has been a case in Brazil and Argentina, and in Indonesia, where you can actually have negative rates of interest. And related to that is just the difficulty of servicing small holders. And I use the example of Thai sugar companies. And Thai sugar companies use contract growing of small holders in Thailand, but the same companies move into Cambodia where they can get large-scale land concessions and where you have very little support for small holders, and then they go in for large-scale production.

And then, finally, something that's very consistently through history, and I think even today, is bigger is perceived as better. And so some of these big state-driven schemes have certainly had that sort of a flavor, and I mentioned the ground nut scheme in Tanzania. But also you see this, surprisingly, in private investors. Private investment is the faith that in big machine, the best technology, you can make a go of it. And, in fact, in many cases, it's very inappropriate technology, and I've got an example there on the right side of an unnamed investor in Liberia producing rice, upland rice using exactly -- doing all the things that you shouldn't do in terms of managing tropical soils.

Okay, moving on just quickly on to the land issues. And this has been historically very heterogeneous, very variable in the treatment of land rights. There -- a surprise to me right back as early as the 19th century, there was very explicit recognition of the rights of cultivators, at least in the British colonial colonies that were not settler colonies. But in the case of West Africa, that was really strictly enforced in West Africa, so you didn't see large-scale plantations in West Africa. But also recognize that that was the good side of it. There was a source of many, many negative sides, and I think the experiences of the big banana companies in Central America is an example of the types of conflicts that come when you don't recognize land rights and you come take over, in this case, many of it community land property.

Another issue on land that surprised me also, looking historically, is that often in the books you see very good rules on how land acquisition is to be -- take place. And just -- these are some examples from Northeast India. And these would be good practices today, in terms of carrying out prior surveys, auctioning of land concessions, transparency, et cetera. But very often those rules were on the books, they weren't implemented. And they weren't implemented because of lack of capacity to implement or because of lack of will to implement. And I think that's a very good lesson for today, that you can have all the rules and the policies on land rights, but you have to be able to implement them.

And then finally on land issues, I think there's been a lot of issues, a lot of emphasis on foreign investment, but it's not just about foreign investment. In the chapter I talk about other cases where land conflicts have originated under the pressure of high commodity prices. One that I look at in quite some detail is the sisal industry in Mexico. It was local investors, but it created a huge conflict. It was a boom, it made many people rich, but it also made many people much poorer over the long run, and from -- and these were local investors. And even cocoa in Cote d'Ivoire, I think is a good example. It's a small holder production, but under the pressure of high commodity prices, cocoa expansion, you've got land conflicts because you don't have well-developed land rights.

And I guess one of my favorite examples is right here from the U.S., where Hawaii then was independent in the 1850s, fully titled the land of the first indigenous people, but it didn't provide the other services. So you had land-rich, cash-poor local population, and then five sugar companies came in and essentially bought that land at a very, very low price. So I think this is a good lesson, if not just about giving land rights, you have to provide the other services to make that land productive.

So let me just finish up with a few observations. I think there's definitely a lot of lessons here from history. I think one of the things that I see looking back is there's been a lot of heterogeneity in outcomes, which I expect we'll see in the current land rush, both positive and negative. And I think the other thing related to that is we need to take a longer view. And some of these things that did start off quite negatively, like rubber in Southeast Asia or tea in Kenya, finished up quite positively, and I think that the effort right now to try to go out and evaluate the impacts after two or three years' experience is probably not very productive.

There's definitely something that comes through from a historical prospective is the role of the state to reduce risk, and particularly to, what I call now, not level the playing field for small holders, but to tilt the playing field for small holders. I think in the past the playing field is actually being tilted against the small holders. And then, finally, and clearly in all of this, is the priority to improving land governance, equality, and administration, regardless of the scale of investment. Even for small holders without investors, this is still a priority, particularly as we move into a much more globalized and commercialized world. And I think the one thing that's a positive story I saw is in the case of labor rights, which was the big story historically, we've made real progress. We haven't solved all the problems of labor rights, but we have made progress.

So, with that, I'll finish it up with a quote from Aldous Huxley is "That men do not learn very much from the lessons of history is the most important of all the lessons that history has to teach." Thank you very much.

[applause]

Robert Hathaway:
Thank you, Derek. We'll hear next from Gary Blumenthal. Those of you who are standing in the back, we've got plenty of seats here, and I certainly welcome you to take a seat.

Gary Blumenthal:
While Michael's getting that up, I'll start. First, thank you, Bob and Michael, for allowing me to contribute to the book and participate in today's presentation. I think the title, actually, of my chapter might be a bit of a misnomer an investor's perspective. I will tell you that I invested in agriculture once, and after I had to explain to my wife why we would never see the money again, I've limited myself to helping other people lose money in agriculture.

[laughter]

The chapter that was written basically from experience of analyzing agriculture every day and doing a bit of due diligence work for investors, and I think, as Michael said, they are a finicky bunch. This is -- I've been trying to run this down ever since I heard this back in the '80s that in the 1970 bull market, Shell Oil actually got into agriculture, and when the market went bust, they got out. Derek and I, turned out we at least were around a fellow that was an investor, a land grabber. And we're on the risk management side, and it seemed as though no matter how much I tried to explain to him the risks, he was all gung ho and enthusiastic about investing. And now, Derek told me today that, no, he's gotten out of it. So they are finicky for a reason.

Now, I'm probably going to disappoint Michael. I'm not going to actually go through the chapter that I contributed in the book. I'm hoping that you'll buy the book and see what I said, and I'm going to try a slightly different tack. I'm going to try to step back and say, well, you know, what do I see is going on? What is the real problem, and why I think investment is important.

First I'll start out, Derek talked about the long history, and there's also been a long history of pushing back against foreign investment in agriculture, including here in the United States. Oftentimes it was against people who were culturally different than us, and so that certainly continues to be the case to some degree. I'm surprised there isn't more pushback now about foreign investment in

U.S. agriculture; sort of, it's not very much. And then, second, it's mostly by Canadians and second by Brits, so I guess they're culturally close enough that it's okay.

Investment tends to come and go with the market, and this is just data showing investment back during the last bear market that we experienced. And you can see that basically on the production side, globally we had less than $100 million a year in investment in production agriculture; about 10 times as much on the processing side. But the thing to keep in mind is if I were to put up essentially the investment on the manufacturing side, it would swamp anything in food and agriculture. It has not been a very preferred area for people to put their money. And I can tell you that from having lived through those bear markets, in fact, the last five years and maybe a couple of years in the 2000s, most of my career has been one of relatively low, stable prices. And the downside of that is that we could not attract capital, we could not attract talent. In fact, most of the people I know, they went into information technology or investment banking, whatever. Agriculture was not seen as very sexy.

Derek mentioned scale, and I want to talk about scale because it's something that I feel very strongly about. And I think if we just talk about land grab, we may miss the forest for the trees. I was struck back in 2003, there was a WTO ministerial in Cancun, and some activists opposed to it took the media to this small Mexican farmer's place, and he was standing there and he had his -- kind of his hut and his kids were crunched down on the dirt floor of their little abode, and the activists were saying, "The WTO is going to ruin this man's way of life." And I thought this man's way of life? I mean, what a waste of human talent. We have people that are basically bending down, stooping down, manual labor in the hot sun when machinery can do this very readily, and in a fraction of the time, producing three and four times the yield. You know what do -- it's why we're not getting this poor man out of this oppressive regime.

But there's been a long history of rejecting change. We had the 1830s, in which the first automated wheat milling equipment came about, and like the Luddites, the hand thrashers of the time, they basically tried to destroy the machinery, so this is not new. I think the concern that I have is that if we look at, historically, this emphasis on

small local, like we have right now from the top politician in this country on down, small and local has tended to emphasize tribalism, and along with tribalism we tend to get conflict. So I'm not sure it's what I would emphasize, and I would say, as a small business person, that I don't want to succeed because the government propped me up, I don't want to succeed because my customers have sympathy for me. I'd rather work to deliver value that I think will have a more sustainable basis for my business. So I think the small is a -- kind of a misstep there.

Michael mentioned -- you know, we started on this several years ago. All of the global multilateral institutions have been working hard on this land grab issue for many years now, and they've done so much work on whether it's, you know, best practices, performance standards, community rights, all the things that get boxed up as responsible foreign direct investment. And that's all fine. I think on the transparency side a lot of progress has been made -- you know, Michael's side of these statistics. So, clearly, a lot of tracking is going on.

But, again, I want to show you a slightly different vision of this. Now, I don't think many countries can or would want to do things the way China is doing it, but it's very instructive. China realized that it could not feed its people if it continued to do it the way they did in the Mao era, of basically subsistence agriculture. And so their policy has been, "We're going to move 30 million people every year from the rural areas to the cities," in order to basically expand their capacity for scale production. Recently they said they have 111,000 agribusinesses with about $1 trillion in sales value. Their goal over the next three to five years is to consolidate that down to about half as many companies with $1.6 billion in average annual sales. China's not alone. Brazil -- it's not quite as overt as China, but Brazil has certainly encouraged large-scale production and what we call world-beater agribusiness companies, some that own quite a bit of assets here in the United States.

If -- this is somewhat dated data from USDA, but several years ago they calculated that 35,000 farms in the United States produce over half of the commercially-traded agricultural production in the United States. More recently I've heard 300,000 farmers in the U.S. produce 90 percent of all commercial production. So, you know, I

think the point is that we do not need 2.6 billion people in the world in agriculture. If we were to take the same metric as in the United States, we'd only need 8.6 million. So we have a great deal of excess labor in agriculture. And I think the point I'm going to make is that this whole land grab is a symptom of a policy construct in which we use an economic sector, agriculture, to basically try and mitigate a social problem, of not knowing what to do with all this excess labor. And capital is simply flowing to this, you know, dystopic situation, or whatever you want to call it. It's easy to blame investors, but really it gets back to poor governance in many, many ways.

I'm going to provide now several different views. I'm going to overlay various attributes on one single axis, which is going to be the amount of arable hectares per farmer, because I'm going to show that -- basically, what are the impacts of small-scale agriculture in many ways, and doing it in a relatively inefficient way. Now, I'm going to do this -- I'm going to use linearity to kind of get rid of -- regress out some of the anomalies and that -- you can pick fault with that, and some will say, "Well, correlation is not causality," but you're going to see it. There's going to be a pattern here and it's hard to push aside.

First, all this admonishment of investors, but, to tell you the truth, if we look here -- I went too far ahead. Here we go. Poor governance. I wasn't paying attention. This is simply taking Transparency International's corruption perception index and, sure enough, the -- by the way, the higher score is the better score, so what happens is there's less perceived corruption the larger the farm size. Countries with lots of small farms tend to have more corruption problems, more governance. And I would say that, really, you know, if we had good governance then we would have countries like Mozambique and Sudan -- they would have rationalized their agriculture sectors a long time ago, they'd be producing at scale; they'd be supplying United Arab Emirates, Saudi Arabia, whatever; and these countries wouldn't feel so insecure. But, instead, they have every right to feel rather concerned when there's only a handful of countries that are really producing agriculture in an efficient fashion. I would also say that if the WTO had the same kinds of requirements on agricultural exports as they do on agricultural imports -- in other words, if countries like Ukraine, Russia couldn't

suddenly stop exports because they wanted to make sure they protected their own market, then net importing countries wouldn't feel so at risk with what's going on.

If your taste is more to the right, this is the Economic Freedom Index, and essentially shows the same thing. Here a lower score on the Economic Freedom rank is better, and so countries with larger farms have more economic freedom. This is looking at income, and this is national income, so this is GDP per capita by country, and, sure enough, you can see that if you allow your farms to consolidate, the nation as a whole tends to do better. It frees up more income to be used for other purposes. Hunger. There is a correlation between small farms and hunger, and we went through that with China's past and in many other ways. And, of course, there's all kinds of things that go along with this. It's not just more hunger, it's less education, less health care. There are all kinds of adverse impacts when you have a country that's largely trying to do things in a too small of a fashion. And if we talk about investment -- where does most investment goes -- where does most investment go? It goes to the countries that just happen to do things that recognize economic principles, like economies of scale.

I saw -- I think there's somewhere in the chapter about the impact on environment. This is simply overlaying the -- Yale's Environmental Index, and, again, countries that have larger farms tend to do better from the standpoint of protecting the environment. And the reason is pretty clear. There's the capital to do so, there's the reputational risk that compels larger operations to do that, whereas oftentimes -- and we -- I can point out several examples in U.S. policy where small farms are exempt. They're not held to the same standard because, again, it's viewed that they don't have the capital to do this.

I will conclude here by simply saying the point is that we spent years trying to hold investors accountable, and I think that's important, but it's also important that we hold the politicians accountable in these countries, which basically create the circumstances in which, as Derek pointed out, there is essentially an abuse and corruption of the system. I will say that if these countries do not rationalize their agriculture -- this is what U.S. agriculture is headed towards, and Australia, and Brazil,

and everywhere else -- huge investment going in technology and production capacity. And if we look at the -- I'm not worried, by the way. Michael, if we look at the OECD and their forecast that total factor productivity is forecast to grow at almost 2 percent, which they predict is ample enough to increase production by 70 percent by 2050. So we're going to produce enough food. It's a matter of which countries are going to produce it, and unless these small -- these poor countries get their act together, they will not be a part of the profit of that. Thank you very much.

[applause]

Robert Hathaway:
Thank you, Gary, and we'll now hear from Janet Larsen.

Janet Larsen:
Thank you. Congratulations to Michael and the other authors on the publication of this book. I was pleased to be in attendance at the Wilson Center event in 2009, and it's exciting to see how this is -- this issue has -- is now being tracked by a lot more people.

It was about five years ago when we at the Earth Policy Institute -- who occupy ourselves tracking a variety of social, economic, and environmental trends -- we started to see in the newspaper, largely business publications like The Financial Times, an article here or there about so many hundreds of thousands hectares being purchased in one country, a deal between Libya and Ukraine, grain for fossil fuels, talk of transferring land here or there, and so we started to ask ourselves, "Who are the people that are tracking these trends?" We saw the -- some newspaper reporters would catch on something in a country here or there, but who was looking at a global scale? And so we called up some colleagues at groups like the U.N. Food and Agriculture Organization and the International Food Policy Research Institute, and, call after call, when we said, "Who's looking at these land acquisitions?" we got silence. About five years ago, nobody was really looking at it. It wasn't clear whether or not it was a phenomenon, but there was enough news that it really piqued our interest.

And then a few years later we had the food price spike in 2007 and 2008, which Michael covered what happened then. We had food riots breaking out in dozens of countries. The price of key commodities would double or even triple within

a matter of months. And the responses that low-income and food-importing countries took, a variety of -- they had a variety of responses. So, a number of export countries put on restrictions, like with wheat. Russia and Argentina limited their exports with rice; Vietnam banned exports for -- entirely for a few months. And so we had these importing countries who depended upon the market for their grain supply start to panic.

And so they -- a number of countries attempted to negotiate bilateral agreements. We had the Philippines approaching Vietnam, seeing if they could negotiate a three-year lease. They had trouble; that deal didn't go through. Yemen sent a delegation of people to Australia. Again, in a seller's market, these food-exporting countries, they didn't have to give any of their product, and so the importers were in trouble.

And then we move on to this third stage of what we call the new geopolitics of food scarcity, which is lease arrangements, or purchasing arrangements, of countries looking overseas to produce food or to produce fuel. And as the -- as Michael has noted, a number of these food grabs have taken place in countries where people are already hungry. I'm not the first person to note that when you have a land acquisition or a land grab, you have a water grab because that's what movement of food is largely. It's a movement of water. When you have -- when it takes 1,000 tons of water to produce one ton of grain, you can clearly see that it's much more efficient to move the grain than to move the water.

And so these so-called land grabs or water grabs are taking place in countries like Ethiopia, Sudan, South Sudan, all up on -- in the upper reaches of the Nile River. If they started -- just taking more water out of the Nile, that's more competition with Egypt. Egypt's the world's largest wheat importer, and we're looking at a future for Egypt where all of its food is imported water; either imports from the Nile that's still reaching Egypt or through the grain trade, because the grain trade is virtually a trade in water. Across the Arab Middle East, you have -- 60 percent of grain consumption is from imports. So you can see why these are major players in the land grabs.

So, together, these kinds of responses, as I mentioned, they're what we at our policy institute call the new

geopolitics of food scarcity, which incidentally is the subtitle of our latest book authored by Lester Brown, called “Full Planet, Empty Plates,” and a lot of my remarks today will draw on research that went into that book. In that book, we led off by saying, “Food is the new oil; land is the new gold.” We’ve seen land prices go up twice as fast as the DOW. In Brazil over the last decade, land prices have nearly quadrupled, and, accordingly, food prices have spiked. It’s easy to look at the food price spike of 2007-2008 and say it’s a one-off deal, but we’ve had three food price spikes in the last five years. Just this past summer, corn and soy prices hit their all-time highs as the U.S. was largely covered in drought.

We have people asking if the U.S. could be entering a new Dust Bowl as Texas and Oklahoma have their second -- two years running of droughts and extremely high temperatures. And with these food price spikes, we here in the United States obviously have been largely insulated from them. When we go to the grocery store and buy a loaf of bread, you may be paying a quarter or so for the actual grain, but the people being hurt when grain prices double or triple, of course, are those in low-income developing countries where they’re buying grain directly themselves; there’s not a lot of pocket marketing or processing going on. If you’re in Indonesia, you’re buying your soy directly; in Vietnam, you’re buying your rice.

And so while absolute numbers of people who are hungry seem to be going down worldwide -- it’s a hard number to get a handle on -- it seems in some parts of the world there’s a deepening of hunger. There’s more and more reports of so-called foodless days. The group Save the Children did a survey of a number of countries and found that in Nigeria, for instance, 27 percent of families routinely were scheduling a day of the week where they would not eat because there wasn’t enough money to buy food. In India, 24 percent of families reported having foodless days. In Peru, it was 14 percent of families having foodless days.

So this is the backdrop on which these land grabs are happening. In 2012, the U.S. Department of Agriculture forecast that global grain consumption will exceed global grain production by 50 million tons. When we’re consuming more than we’re producing, that means we’re drawing down our stocks. Global grain carryover stocks this year are set at about 68 days of consumption. So that means the

amount of grain left in the bin by the time next year's harvest begins could cover our consumption for 68 days.

These grain stocks are our main buffer against food price spikes. Historically, the world had two main food buffers. We had -- we have global stocks, or national stocks, in each country, and then we had the United States' wonderful grain set-aside program where we would put land out of production to try to keep a handle on prices. But in 1986, as many people have forgotten, we did away with the set-aside program. There are not vast areas of farmland in this country that are not being produced, particularly when commodity prices are so high. So we lost one of our major buffers and, with stocks being at only 68 days of consumption, we're at a fairly precarious point in world food security.

Now, the world food balance obviously is a -- it's a balancing act between supply and demand. On the demand side, as everybody knows, we have population growing at nearly 80 million people per year, so that's 219,000 new people at the dinner table every night who weren't there the night before, and many of them are ending up with empty plates. We have consumption of meat, milk, and eggs going up. These are very intensive products in terms of land use area, water use. And I'm talking a lot about grain. We use grain a lot as a proxy for food security just because it supplies the majority of calories of people. Now, if you look at the grain consumption of people in India, the average Indian eats about 400 pounds of grain each year. Compare that to the average American, who eats 1,600 pounds of grain per year, and most of our excess grain consumption, of course, is in grain fed to livestock to produce our hamburgers and chicken patties, our milk and our eggs and ice cream. Meat consumption in China now is twice as high as that in the United States. On a per capita level with everything except for pork, of course they're much below us, but they're aspiring to this western lifestyle, and so increase consumption of meat means more grain being used, it means more soy being used, and to have more grain and more soy you need a lot more land.

Just to give a couple of enlightening figures on soybeans, back in 1995 China was producing and consuming about 14 million tons of soybeans every year. Last year, China was still producing 14 million tons of soybeans but it was consuming 70 million tons of soybeans. So they were

relying on imports to cover the excess, and many of those from the United States, Brazil, and Argentina. China's burgeoning appetite for meat is, in effect, reshaping the western hemisphere's agricultural landscape. The soybean used to be sort of an agricultural oddity, but now the acreage in soy in the western hemisphere is exceeding that of wheat and corn.

China thus far has largely maintained a goal of self-sufficiency in grain. They decided to focus their attention on producing more grain and relying on the world markets for their soy production, but that's starting to change, and just in the last few years China has been importing more corn and wheat. And so -- small as a percentage of their total consumption, of course, but when you compare them to other importing countries, China is now one of the top grain importers just in the last couple of years. So this is a big issue to track when you're looking at what's happening with demand.

And the more recent growth in demand has been for biofuels. Largely, when you're talking about grain you're looking at corn in the United States as the biggest biofuel that we have in this country. The U.S. grain harvest as a whole in a good year is about 400 million tons. Last year, we turned about 129 million tons of that into ethanol. When you compare the automobile with the average hungry person, you see who's going to lose just by the economics of the question. The world's average automobile owner may make about $30,000 a year. Those on -- those poorest people that are struggling to eat make far less than $3,000 a year, yet filling a 25-gallon SUV tank only once could otherwise feed a person for the year. That much grain is used -- it takes that much grain just to fill a tank once.

So that's on the demand side. On the supply side, we look at a number of constraints. One: soils. We talked a bit about land quality and soil erosion. People think of dust bowls as something in our history. In this country, they were -- the 1930s dust bowl -- but there's an active dust bowl going on in China and Mongolia right now as grazing livestock are denuding the land, causing deserts to, in fact, merge. We have water as possibly the biggest issue we're facing right now. Water tables are falling in countries that contain half the world's people. One of the bigger land-grabbing countries is Saudi Arabia, and you can see why. When you look at their 2008 announcement, they

noted that they were depleting their underground water storage, their aquifer, enough such that they would have to phase out wheat production entirely by 2016. Heretofore, Saudi Arabia had been largely self-sufficient in wheat. They use their oil drilling technology to get down deep under the desert and turned deserts into big farms with irrigation. But by 2016, they said they can no longer continue that. So they, of course, will be reliant on the import market or on these deals where they are leasing land in a number of countries on the waterfront.

So, Saudi Arabia -- it's a relatively small country, so Saudi Arabia coming to the world market is not the hugest deal. It won't cause prices to fluctuate entirely, but we also have water tables falling in the world's three big agricultural producers, in the United States, in India, and in China. World Bank data for India reveal that about 170 million people are being fed now with food produced by over-pumped aquifers. So 170 million people in India are eating food that we won't be able to produce in the future because these water tables are falling, wells are going dry. You hear about the housing bubble or the dot-com bubble, in India and in China, where water tables are also falling and wells are going dry; this is basically a food bubble. We are producing food now using water that just won't be there in the future.

So we have soil erosion we're dealing with, we have water constraints. Looking forward to the future -- maybe we don't have to look too far into the future, after the past few years what we've seen in terms of heat and drought, but we have climate change. The rule of thumb among agronomists is that each one degree Celsius rise of temperature above the optimum during the growing season can reduce crop yields by 10 percent. Studies done at Stanford University looking at past production of U.S. corn and soybeans found that each one degree rise in Celsius during the growing season actually reduced yields even more, by 16 percent. So, if one degree reduces yields about 10 percent, this is bad news because climatologists are telling us that within the century we could be seeing rises of about six degrees Celsius.

So climate change affects yield. So, at a certain point as it gets too hot, as we saw this summer in the Midwest, you have total crop failure. Farmers were having to plow over their corn fields without harvesting any of their crop

because corn pollination is so sensitive. Each of those silks needs to be fertilized to produce each kernel of corn, and when it's so hot and the corn silks shrivel, production falls to zero. Climate change also has indirect effects, of course. Ice melting leads to sea level rise which impacts the rice-growing regions of Asia. It leads to glaciers and snow loss. We call -- these glaciers are reservoirs in the sky, because during the dry season their melt water helps supply rivers that then are used for irrigation.

So we're looking at water shortages, soil erosion, climate change, and the fourth big supply constraint is agricultural yields. Between 1950 and 1990, agricultural yields -- the amount of grain we were getting for each acre -- was increasing by 2.2 percent a year. Pretty good improvement. But between 1990 and 2011, this rate of improvement had fallen from 2.2 percent to 1.3 percent. So the growth in yields is slowing around the world, and in some places it's even starting to level off or plateau. We looked at countries around the world to see where grain yields were starting to flatten out and we found that in Japan -- with their rice production, Japan has seen no appreciable increase in yields over the last 17 years with their rice crop. And Japan is a country where they set a fairly high domestic support price to encourage rice production, so it's not like the Japanese farmers are not trying hard enough or don't have the technology. They're employing basically all the technology they can, but they just can't get any more crop out of their land. They're very, very efficient as it is.

In South Korea -- so Japan's rice yields have been plateauing at just under five tons per acre since about 1994. South Korea's have also been plateauing since about 1996. China is now starting to approach that same level as in Japan. And so the question is will China also hit that sort of glass ceiling? Will their yield start to stagnate as well? Nobody knows for sure, but if they do that would mean that if Japan, China and South Korea all can't increase their yields would be producing a third of the world's rice crop from three countries where yields had stagnated. With wheat, you can see the same thing playing out in Western Europe's major producers, France, Germany and the U.K. Wheat yields have been rather stagnant over the last decade. Other countries that may be starting to hit that plateau level include major ones like India.

China may be starting to slow down. It's getting close to that potential ceiling but they could go farther. This is sort of a nobody knows. China's done a lot to embrace agriculture technologies, but they're right now using twice as much fertilizer as we are in the United States. So fertilizer's not going to get them much further. There may be other varieties or other techniques they can get, but overall if China starts to stagnate in yield production, we'll be in trouble.

Already, they're starting to have to cut back rice production in some areas because of the water shortages, moving to more water-efficient crops. And that leads me to talk about some of the solutions.
I think what we need to do to help balance this. Our growth and demand and our potentially slowing growth in supply, we need to ramp up efforts in water use efficiency. As they say, "get more crop per drop." We need to -- same way we increase land productivity since 1950, we need to do the same with water. None of this is rocket science. We need to stabilize population. We need to stabilize climate. A lot of the solutions really lie outside of the realm of agronomy and agriculture. When you're looking at population, when you're looking at climate change, one thing that we can do within agriculture is to look at what our recommended level of stocks. How can we increase our buffers so that we're protected from future food price spikes?

Historically, a 70-day buffer of 70 days of where the grain and the bin when the new harvest starts was considered largely sufficient. Now with climate change, when we're having major droughts, heat waves, crop withering events, every year -- and these are likely to increase as the temperature goes up. We think we need to look at a larger buffer, more like 110 days of consumption.
So, just to conclude, when we were wondering if the future of food security is rosy or not, I think we're looking at a variety of tipping points and a number of peaks. We may have passed peak water in terms of the amount of water used for irrigation worldwide. We may be hitting peak fertilizer.

Soon enough, we could be hitting the peak of the gain in yields. We may have already passed that worldwide. And so we have to see how these trends balance out with some of the more positive trends, like we may be hitting the point

where we've passed the peak in grain turned to ethanol, as more and more people are getting concerned over the food versus fuel conundrum. And countries like the United States and a number of countries -- the European Union as a whole -- looking to revise their biofuels requirements. And one exciting trend that we've seen in the United States is the U.S. has now passed peak meat. Meat consumption in the United States has fallen about 6 percent since its high in 2007, as a whole. Per-person, meat consumption has also fallen about 10 percent since 2004. A lot of this has to do with higher prices of meat, but I think also lifestyle changes.

And so if we in the United States can start to move down the food chain, that clearly frees up a lot more grain for the rest of the world and would be something to emulate rather than our hamburger every night kind of eating style. Whether, with regard to the global farms raised, whether we've hit the peak of land investments, I think it's too early to tell, but think one of the telling things is when we try to see what would the land acquisitions do for food production overall, so far, relatively few shipments have actually materialized. So a lot of this land is not being used. We're not seeing a lot of grain being sent back yet to home countries. So it's an issue to watch, but whether or not it's going to be the great disaster many people said, I think we have yet to see. But the book is a wonderful way to start that discussion. So thank you very much for allowing me to be here.

[applause]

Robert Hathaway:
Well, thanks to all four of our speakers. You have ultimately educated me and frightened me. But I was also, and particularly pleased, that all four of you went out of your way to point in the direction of solutions or possible solutions or partial solutions, and I particularly applaud you for that as well. We have 15 minutes to go. So let's open this to those of you in the audience. Wilson Center rules, as always, if you will wait until you're recognized, and then further wait until we get a microphone for you. We have mics on either side. If you will briefly identify yourself and try to keep your question or your comment pointed and concise so that we can get a number of you involved. We'll start right here, and we'll go here then we'll go here. Then we'll go to the back.

Yes.

John Harbensen:
John Harbensen [spelled phonetically] from Johns Hopkins [unintelligible]. For Mr. Kugelman, I just didn't hear enough about whether the research farms is in the best interest of the countries involved. Nothing about the terms upon which these deals are cut, and the lack of transparency on those deals, and what that signifies in terms of land tenure and security in these countries. Nothing about the effects of this placement of populations and increasing sizes of internally displaced persons. Nothing about the impact on small holders. Mr. [unintelligible] is old enough as I am. Remember when small holders were seen as the most efficient users of scarce resources. Nothing about the technological and spinoff advantages of any for the host countries. I just think we need to talk more about what -- [unintelligible] best interest of the countries themselves. I'm not convinced.

Robert Hathaway:
Let's put a second question on the table and then we'll address two of them. Yes, this gentleman here.

John Richardson:
Hi. Thanks for your presentations. My name's John Richardson. I'm with the Center for Human Rights and Humanitarian Law out of American University's Washington College of Law. All of you touched on some root causes for increased demand in farmland but haven't really spoken to this issue. And that has to do with the largely deregulated commodities markets and financial speculators who have born primary responsibility for the dramatic increase in food prices, particularly during the 2007 - 2008 period, but also again 2011 to the present. I wonder if any of you have any comments on that.

Robert Hathaway:
Michael, I heard your name, so why don't we start with you then we'll let others jump in.

Michael Kugelman:
I'll defer to others in the second question, but in terms of the first question, no, I think it's absolutely correct that these deals, just about all of them -- I'm not going to quantify them exactly -- they benefit the host

governments more than local communities. And that's because these host governments are, for the most part, not particularly -- they don't feel particularly accountable to their people, so they don't feel a need to ensure that there are strict clauses promoting the rights, environmental protections, local employment, things like that.

There have been some exceptions, and the book does get into this. I mean, you talk about social impacts and things like that. These are discussed quite specifically in the book. But, really, for the most part, based on the data that's there -- and, again, the data is not easy to access. I think everyone here would agree with that. But from what's been made available, and what we can understand, most of these deals have not really paid off for local communities. Of course, it is early, but they've really provided money, to put it in a raw fashion, for the governments hosting these investments, but not too much else. And, again, that could change. If there's more pressure, if there start to be more -- for instance, if the international media, which doesn't really cover this issue that extensively, if it were to get really involved and start spotlighting some of these deals, particularly the majority -- those that have not done it very well. Maybe that would shame some investors or -- either on the corporate side or on the government side -- into trying to be a bit more -- trying to make sure that these deals would work out for local communities and host governments. But at this point, I don't see that at all.

Robert Hathaway:
Anyone want to tackle the second question? Okay. [unintelligible]

Gary Blumenthal:
Well, actually, kind of interesting, if you look at whether it's land grab or so-called speculation, commodity futures -- all of these organizations, whether it's the G20 meeting in France in 2011. France initially put land grab on the agenda. They wanted something done on it. It fell off. All of the various organizations have all brought up the issue of speculation and none have moved forward with anything. And the reason is there are a few studies out there -- one by Masterson [spelled phonetically]. There's a guy who lost money speculating in heating oil. And, you know, these are really -- these people have a gripe, but

the preponderance of the academic research suggests that there's not clear evidence that speculation -- that fundamental supply and demand was the preponderant reason why prices rose. And what we would say is it's interesting that you always hear complaints about speculation when prices rise. You never hear complaints about speculators when prices fall.

Male Speaker:
[unintelligible]

Derek Byerlee:
Well, on the second, I think one of the few things Gary and I agree on is that speculation wasn't important in -- it's a relatively minor role in the food price spike. I think in terms of the first question, just from the historical point of view and from the current situation, I think we have to recognize the huge heterogeneity of situations out there. We're talking about countries with very different land governance system. I've just come from Australia. Foreign land grabbing is a huge media and political issue in Australia. It's not because of land rights and land markers. They work perfectly well. So I think -- and also it's the type of investors out there. There's some very good, responsible agribusiness investors who've got a very good track record and trying to do the right thing. But while prices are high, you also get a lot of others that come in that treading on the rights of local people, don't know what they're doing in terms of technology.

Robert Hathaway:
Is "land grab" a useful term or is it sufficiently subjective and pejorative that it would be, from an analytical standpoint, useful to come up with a different term? And we've used different terms this afternoon, but how do you feel about the phrase "land grab"?

Michael Kugelman:
I could take that first. I think it definitely plays well with the media, and it plays well on a book cover title --

[laughter]

-- for sure. I think that in some cases I think it's very accurate to use the term "land grab," if you define it the way that -- I define it very specifically in the introduction of the book as something in which a very

large, powerful entity from the outside essentially acquires a very large amount of land, and land that tends to be used, even if not owned, by locals who tend to be relatively poor and weak. So the asymmetry issue, I think, is very significant there. And then I think in that sense, a "grab" actually is accurate. It's not -- it's wrong, though, to use the land grab term because, you know, this land is not being taken over through force, through violence. There have been cases where people are essentially displaced, but it doesn't happen with guns and weapons, for the most part. But, so in that sense, it may not be the best term to use. But I think that because it conveys (a) a very large amount of land, and (b) [unintelligible] that you have very powerful players preying on very poor players. And this is not a dynamic that plays out in every single deal, but it does in many cases. And in that regard, I it's quite accurate to use.

Janet Larsen:
I would agree with Michael there. Just to give one example, you have the company Saudi Star, which is owned by a billionaire from Saudi Arabia who leased 24,000 acres for rice production in Ethiopia [unintelligible] Bella region. This is something where journalists have come back and said that people have been displaced off their land. It may be that they had no official land tenure, but their land were traditionally used by pastoralists for grazing or food collection. They were moved into communities, promised roads and schools, got very little of anything. And this company is paying less than $1.00 per acre per year for this 50-year lease of 24,000 acres, and they intend to obtain another 716,000 acres. And they're planning to send that rice -- not leaving it in Ethiopia, a country dependent on their lifeline from the world food program, but they're sending that home to Saudi Arabia. Of course, when we try to figure out how this was -- the first purchase was in 2010. Only about 860 acres of those have actually been producing so far, so production is small, but the displacement has occurred already. Those people are off their land.

Chow Chen:
Chow Chen [spelled phonetically], Bethesda, Maryland. Brazil have a huge land, and also it's a big agriculture country. Why did Brazil join the race? And no single page cover United States. How the U.S. big company doing in this regard? Thank you.

Gary Blumenthal:
Sorry, the question is about the U.S. involvement?

Male Speaker:
And Brazil.

Gary Blumenthal:
Oh, and Brazil. Yeah. Well, I mean Brazil, the Latin America case study chapter focuses on Brazil quite extensively. And the idea is that Brazil has a lot of very attractive land for investors. And you're not seeing the type of activity -- investment activity -- in Brazil and Latin America, large as you are in Asia and Africa. But there is a lot of it going on, though much of it, as I understand, is not actual farming. There's been a lot of speculative -- land use for speculative purposes. Cases of investors sitting on land and not doing anything with it. And that hasn't aroused as much controversy as in other regions, just because, according to the research in the book, there is a lot of land in the country. In Brazil there's -- these deals are happening in some more sparsely populated areas, and hence it's not attracting as much attention. But, no, Brazil is a very active spot, a very big target.

Robert Hathaway:
Anybody want to say anything about the United States?

Janet Larsen:
I think some of the land grabs that have attracted the most attention are government purchases or government-entity purchases going to other countries. So in the United States, that's not what we have. We have U.S.-based investors, U.S.-based companies. If you look at pension funds like TIA-CREF, for instance, is a big institutional investor in land purchased somewhere else. But it's sort of a different flavor of investment than, say, the Saudis going to Ethiopia or South Korea going to Russia through a government entity.

Derek Byerlee:
Maybe I'll disagree a little bit with Julia. I think the fact that governments from the Gulf, from Asia coming in and taking over this land for their food security -- I think that's a relatively small portion of the total land acquisitions. I think the evidence is fairly clear on that. That's definitely important in countries like

Ethiopia and Sudan. But Americans are out there, too. And I can just give you a couple of examples. There's one very -- I guess, both of them by now, infamous. One is the Iowa, large Iowa maize farmer -- corn farmer, sorry, who is investing in western Tanzania and has plans to grow 100,000 hectares of corn and soybean. Quite controversial because there's been a significant displacement of people involved -- actually, refugees from Burundi -- who are being displaced by that project, and Iowa State University got its feet held to the fire because they were involved as well. And the other one that's oil palm [spelled phonetically] in the Cameroons, which is another New York-based investor, and that's mostly based on environmental issues, although there are land rights issues as well, investing in oil palm. There's a number of American investors [unintelligible].

Robert Hathaway:
One final question all the way in the back.

Robert Sherretta:
Thanks, Mr. Moderator. Robert Sherretta, president of International Investor. I think I may have heard one contradiction there, at least a difference of opinion, and I just want to know if you two could clarify it. Mr. Blumenthal, I think you made a mention of a statistic about food production gaining 2 or 3 percent per year, at least. Maybe you could cite the source for us again on that. And that seems to contradict quite a bit of what Ms. Larsen had to say about her views about food production going forward. I wonder if the two of you might try to reconcile that for me.

Janet Larsen:
[laughs] I was citing data from the U.S. Department of Agriculture's Foreign Agriculture Service, their production supply distribution database, looking at the annual growth and yields comparing 1950 to 1990 when yields were growing by about 2.3 percent a year, contrasting that with the most -- since 1990 to the present, where they are closer to 1 percent annually. And that data is from the U.S. Department of Agriculture. It also agrees with the U.N. Food and Agriculture organization.

Michael Kugelman:
Tell the story by way of example. Lester Brown, he sells books by telling us that the sky is falling. And then

there is Dennis Avery, sort of on the other side of the story -- his book is saving the planet and feeding the world using plastics and pesticides or something like that. So Dennis is on the optimist side. He says, you know, we're going to save the world. Don't worry. Well, Lester has this nice, big institute in downtown Washington, and Dennis works from his home out in Shenandoah Valley -- feed yourselves, I guess is one conclusion on that. I was citing organization of Economic Cooperation and Development. Basically, we had a meeting over at the Economic Research Service about a month or two ago. Not Ken, but who's the deputy in the Ag section; I can't remember his name. I was surprised as well, but basically OECD uses what's called a demand-driven model. And their prediction is what they call total factor productivity, meaning all of the inputs that go into production were at a pace, were at a projected pace to be able to feed or fulfill the needs going forward.

Robert Hathaway:
Well, I'm not sure we resolved that or some other issues. But we have other important business at hand. We have a reception outside for us. We have a book seller who is eager to relieve you of a bit of your cash. Please join me with a round of applause for all of our speakers.
[applause]

Thank you for coming. We are adjourned.

[end of transcript]